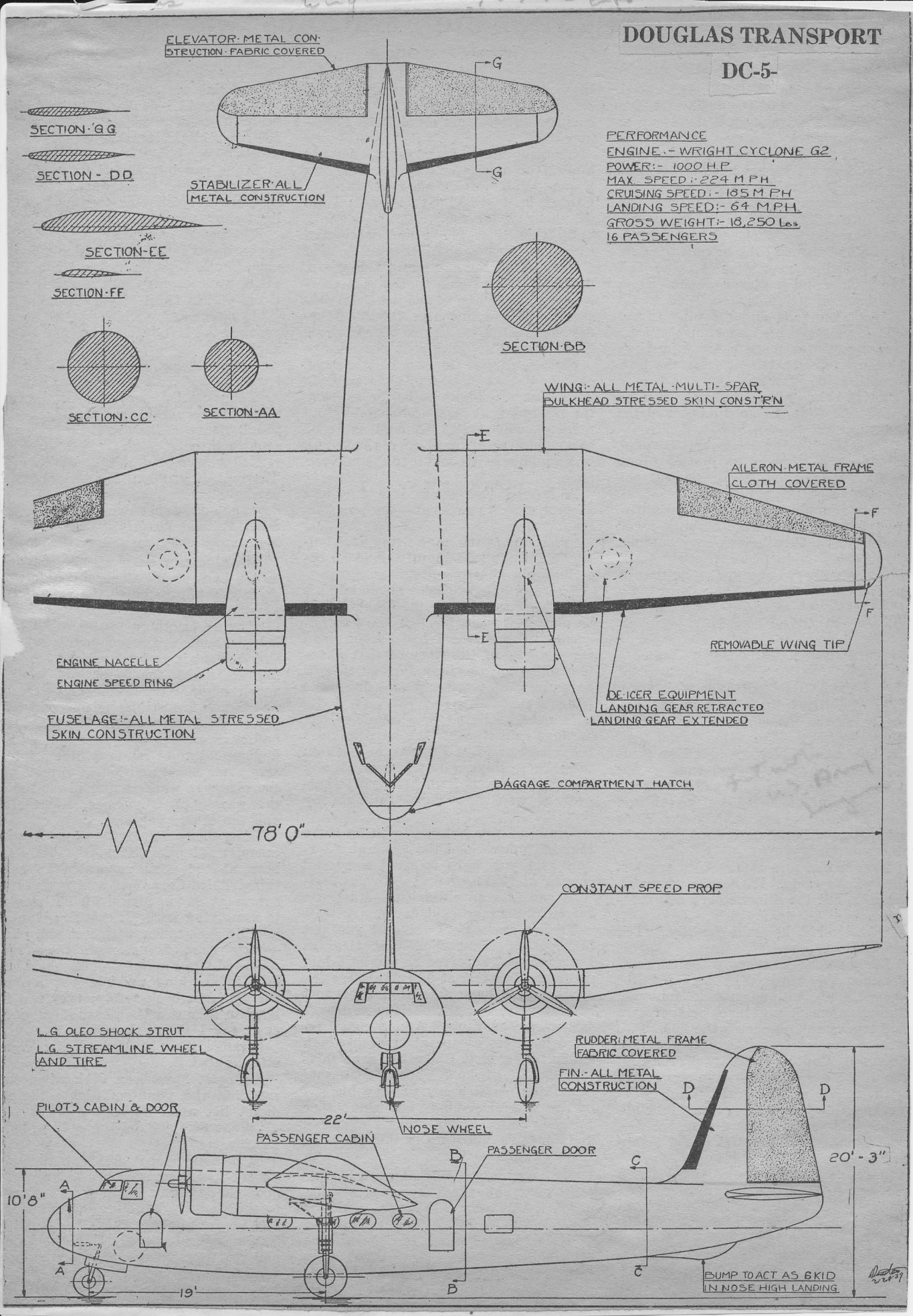
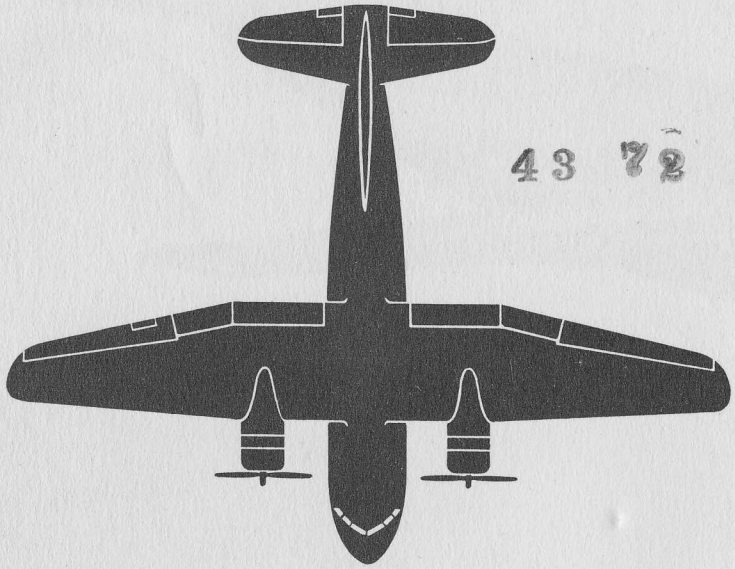
DOUGLAS TRANSPORT

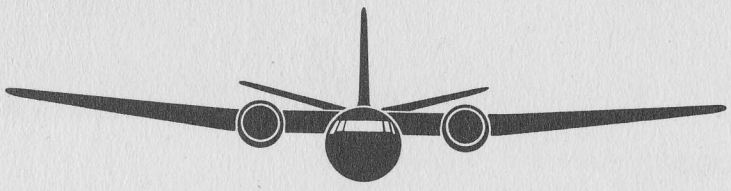
DC-5-



SPECIFICATIONS

DESCRIPTION		PERFORMANCE	
DIMENSIONS:	Span: 78' Length overall: 62' 2" Height overall: 19' 10"	SPEED:	230 mph maximum 195 mph cruising
WEIGHT:	20,000 lbs. gross weight	PASSENGERS:	16-22 seats day standard
POWER PLANTS:	2 Wright "Cyclone" GR-1820-G102A 1100 take-off horsepower each	PAYLOAD:	4025 lbs. maximum
LANDING GEAR:	Completely retractable tricycle		





DOUGLAS DC-5

Shortly before Pearl Harbor, Douglas Aircraft company developed the DC-5, a full-bodied, twin-engined transport airplane especially for feeder-line and other short-haul operations.

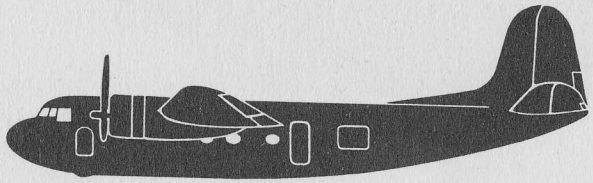
Most notable departure from previous transport design was the tricycle landing gear, which facilitated loading operations, and the high wing which afforded greater visibility for passengers.

Both of these design features appear in post-war feeder-line transports.

Outfitted as a luxurious private plane, the prototype DC-5 was purchased by W. E. Boeing, associated with Boeing Aircraft company. Subsequent models were delivered to KLM, the Dutch airline, for use as standard feeder transports carrying from 16 to 22 passengers. The remainder went at the start of the war to the U.S. Navy and Marine Corps. Under the designation R3D-1, -2, and -3, they were used extensively in training paratroopers.

The KLM transaction was a timely one for our Dutch allies whose Royal Air Force, during the tragic Battle of Java and at the fall of Singapore, flew them continuously in evacuating civilian refugees and troops from the smoke and ruins of the battle raging nearby.

Shortly after Pearl Harbor, production of the DC-5 type transport was interrupted when the Douglas El Segundo plant, where they were developed, was alerted for full-scale production of SBD Dauntless dive-bombers.

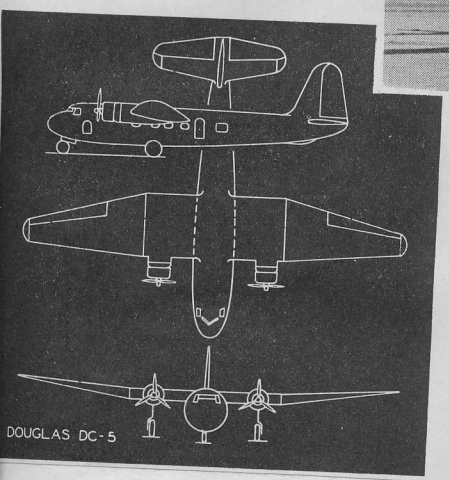


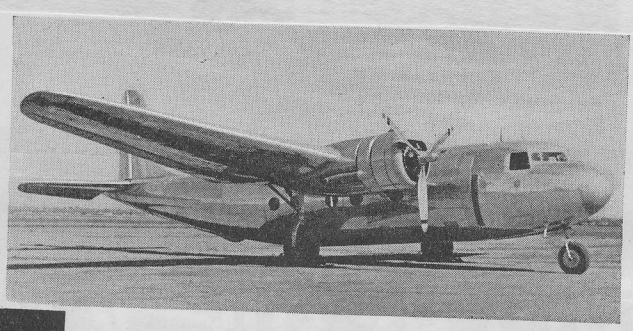
DOUGLAS

MODEL DC-5

19-PLACE

ATC PENDING





Models G2, G102A, SCG, S1C3G; data given in that order.

SPECIFICATIONS. Span 78′ (23.8 m.). Length 62′ 2″ (19.4 m.). Height 16′ (4.9 m.). Wing area 825 ft.² (76.6 m.²). Power loading (lbs./h.p.) 9.2; 8.3; 9.5; 7.7: (kg./h.p.) 4.2; 3.8; 4.3; 3.5. Wing loading (lbs./ft.²) 22.1; 22.1; 22.9; 22.6: (kg./-m.²) 107.9; 107.9; 111.8; 110.3. Empty weight (lbs.) 13,000; 13,175; 13,590; 13,835: (kg.) 5896.8; 5976.2; 6164.4; 6275.6. Useful load (lbs.) 5250; 5125; 5110; 4865: (kg.) 2381.4; 2324.7; 2318; 2206.8. Gross weight (lbs.) 18,250; 18,300; 18.700; 18,700: (kg.) 7978.2; 8300.9; 8482.4; 8482.4. Baggage 560 lbs. (254 kg.). Fuel 550 gals. (2082 lit.). Oil 34 gals. (128.7 lit.).

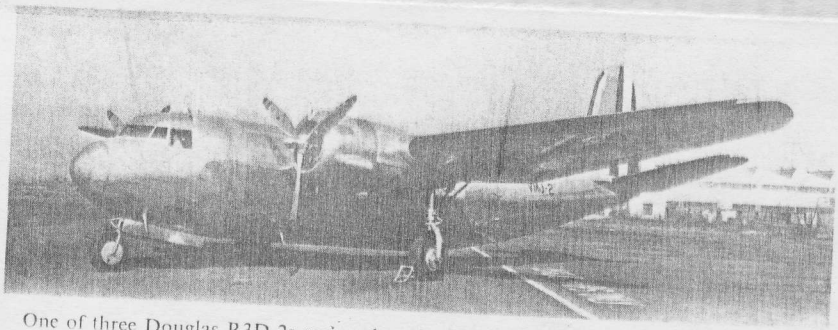
PERFORMANCE. Maximum speed (m.p.h.) 224; 231; 243; 248: (k.p.h.) 360.5; 371.8; 391.1; 399.1. Cruising speed (m.p.h.) 203; 210; 218; 221: (k.p.h.) 326.7; 338; 350.8; 355.7. Landing speed with flaps (m.p.h.) 64; 65; 65; 66: (k.p.h.) 103; 104.6; 104.6; 106.2. Rate of climb (ft./min.) 1580; 1775; 1710; 1930: (m./sec.) 8; 9; 8.7; 9.8. Cruising range (mi. max.) 1900; 1780; 1860; 1900: (k.p.h.) 3057.9; 2864.7; 2993.5; 3057.9.

ENGINES. Wright Cyclone SGR-1820-G2 (two), each 1000 h.p. for take-off; Wright Cyclone SGR-1820-G102 (two), each 1100 h.p. for take-off; P & W Twin Wasp SCG (two), each 1100 h.p. for take-off; P & W Twin Wasp S1C3G (two) each 1200 h.p. for take-off.

CONSTRUCTION. Fuselage: all-metal, semi-monocoque consisting essentially of transverse frames of formed 24 S-T Alclad sheet and longitudinal members of 24 S-T extruded bulb angle; 24 S-T Alclad sheet covering. Wing: all-metal; monospar construction; ailerons fabric-covered and provided with trim tabs. Flaps all-metal, 24 S-T Alclad sheet formed. Tail group: all-metal; fin and stabilizer monospar structure, metal-covered; elevators and rudder all-metal, fabric-covered. Fully retractable tricycle landing gear, hydraulically operated.

STANDARD EQUIPMENT. Hamilton Standard Hydromatic propellers, pneudraulic shock absorbers, hydraulic brakes.

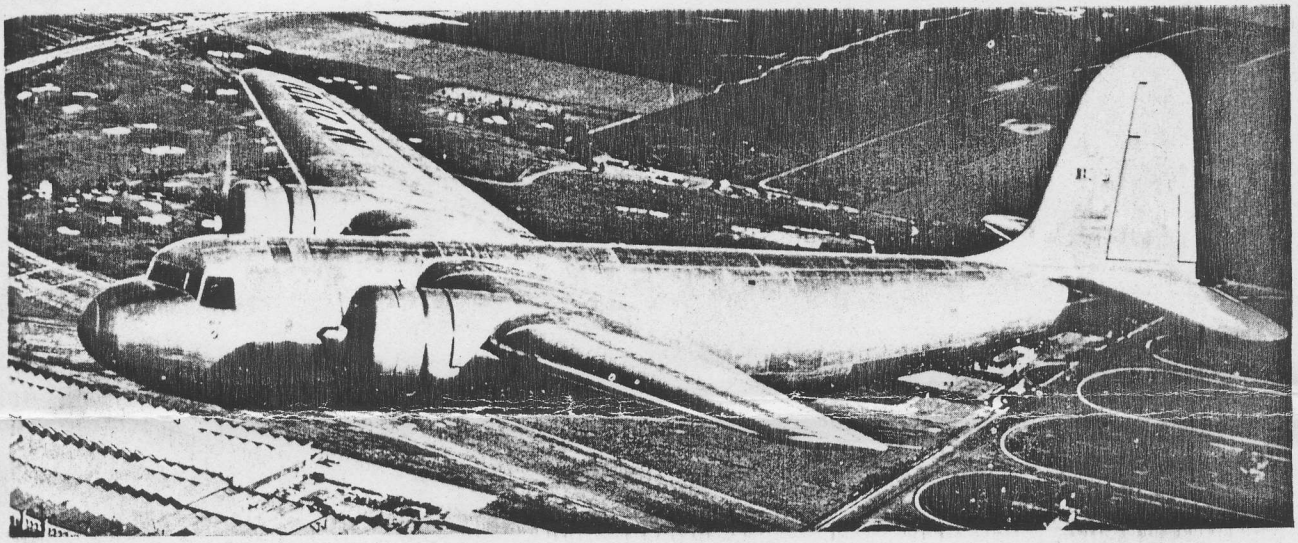
INSTRUMENTS. Full complement of instruments required for airline use.



One of three Douglas R3D-2s assigned to the Marine Corps in 1940. *(Douglas photo)*

DOUGLAS R3D

First flown in February 1939, the Douglas DC-5 commercial transport was overtaken by World War II and of the 12 built, seven were on a US Navy contract placed in 1939. This was for three R3D-1s (1901–1903) for the Navy and four R3D-2s (1904–1907) assigned to the Marine Corps in 1940 as paratroop trainers. The first R3D-1 crashed before delivery but one privately owned DC-5 was later acquired by the Navy as the single R3D-3 (08005). Engines were two 1,000 hp Wright R-1820-44s. Span, 78 ft; length, 62 ft 2 in; gross weight, 19,582 lb; max speed, 221 mph.



The Douglas DC-5 Commercial Transport (two Wright "Cyclone" engines.

ACCOMMODATION.—The fuselage is divided into eight compartments as follow :—1.—Cockpit accommodating two pilots and engineer in extreme nose, with separate entrance for the crew. 2.—Men's lounge on left side of fuselage aft of cockpit. Has lavatory, full-length divan, three wash basins, three electric shavers and mirrors, etc. Hot and cold running water. 3.—Front cargo compartment (partly below floor level with outside door and accessible from men's lounge) and men's hand-baggage compartment (above cargo compartment) on right side of fuselage aft of cockpit. 4.—Galley on right side of fuselage (aft of cargo and hand-baggage compartments). Equipped with thermos compartments, electric hot-plates, electric toasters, and many other modern conveniences, including hot and cold running water. 5.—Main passenger compartment (aft of men's lounge and galley). Accommodation for forty passengers by day and twenty-eight by night. 6.—Wardrobe and women's hand-baggage compartment (on right side of fuselage aft of main cabin). 7.—Stateroom (on right side of fuselage aft of wardrobe compartment). Has private lavatory and wash-room and accommodates two passengers by day or night. Hot and cold running water. 8.—Ladies lounge (on left side of fuselage opposite stateroom). Equipped with full-length lounge, wash-basins, lavatory, mirrors, electric curlers, hot and cold running water, etc. In addition to the front cargo compartment there are three further compartments, one located in the left front below the men's lounge and one on each side and below the main passenger cabin just aft of the trailing-edge of the wing. Passenger entrance door on the left side of the fuselage between the ladies' lounge and the main passenger cabin. For future developments the fuselage has been designed so that in all future models internal pressure can be maintained equivalent to 12,000 ft. at 20,000 ft. Complete inter-communication telephone system with external plugs for ground connections at terminals.

DIMENSIONS.—Span 138 ft. 3 in. (42.16 m.), Length 97 ft. 7 in. (29.83 m.), Height 24 ft. 6½ in. (7.47 m.), Wing area (including ailerons) 2,155 sq. ft. (200.6 sq. m.).

WEIGHTS.—Weight empty (day flying) 42,564 lbs. (19,324 kg.), Weight empty (sleeper) 43,905 lbs. (19,933 kg.), Weight loaded 66,500 lbs. (30,190 kg.).

PERFORMANCE.—Maximum speed at 7,000 ft. (2,135 m.) 245 m.p.h. (392 km.h.), Cruising speed at 10,000 ft. (3,050 m.) at 60 per cent. output 200 m.p.h. (320 km.h.), Landing speed 70 m.p.h. (112 km.h.), Initial rate of climb 1,175 ft./min. (358 m./min.), Service ceiling 22,900 ft. (6,985 m.), Absolute ceiling 24,000 ft. (7,320 m.), Ceiling on three engines 19,000 ft. (5,795 m.), Height maintained on any two engines 8,000 ft. (2,440 m.).

THE DOUGLAS DC-5.

TYPE.—Twin-engined commercial transport.

WINGS.—High-wing cantilever monoplane. All-metal structure, similar to that of DC-3. Wing-tips are detachable. Ailerons have metal frames with fabric covering. Hydraulically-operated trailing-edge flaps.

FUSELAGE.—Semi-monocoque construction, circular at the wing-root. Incorporates a substantial keel along the bottom of the fuselage. Structure consists essentially of transverse frames, longitudinal stiffeners and light-gauge sheet covering.

TAIL UNIT.—Cantilever monoplane type. Tail-plane and fin of metal-covered two-spar construction. Elevators and rudder are fabric-covered metal structures. Trim-tabs, controllable in flight, are provided for rudder and elevators.

UNDERCARRIAGE.—Fully retractable tricycle type. All three units of the undercarriage, consisting of the two main gears and the nose gear, are shock-mounted. Hydraulically-operated wheel-brakes.

POWER PLANT.—Two Wright "Cyclone" GR-1820-G102A nine-cylinder radial air-cooled engines, each rated at 900 h.p. at 2,300 r.p.m. at 6,700 ft. (2,043 m.). Two fuel tanks, each accommodating approx. 275 U.S. gallons (1,041 litres); total fuel capacity approx. 550 U.S. gallons (2,082 litres). Each engine nacelle carries a stainless steel oil tank of approx. 17 U.S. gallons (64.3 litres) and approx. 3½ gallons (13.2 litres) foaming space. Starters are direct hand-electric type. Three-bladed hydromatic, full-feathering airscrews. Engine mountings of welded steel-tubing are interchangeable with DC-3 mountings when Wright engines are installed. Entire nacelle forward of fireproof bulkhead is detachable.

ACCOMMODATION.—Crew of three, with two pilots side-by-side, in nose. Sixteen passengers are accommodated in the standard version. Alternative arrangements accommodate eighteen or twenty-two passengers. Ventilating, steam heating and sound-proofing systems. A lavatory and buffet are provided. Provisions are made for the installation of radio equipment and baggage is accommodated in three compartments—the left forward compartment with approximately 98 cub. ft. (2.77 cub. m.) space; the right forward compartment with approximately 34 cub. ft. (.96 m.) space; and the rear baggage compartment with approximately 146 cub. ft. (4.06 cub. m.) of space.

DIMENSIONS.—Span 78 ft. (23.8 m.), Length 62 ft. 2 in. (18.96 m.), Height 19 ft. 10 in. (6.05 m.), Wing area 824 sq. ft. (76.6 sq. m.).

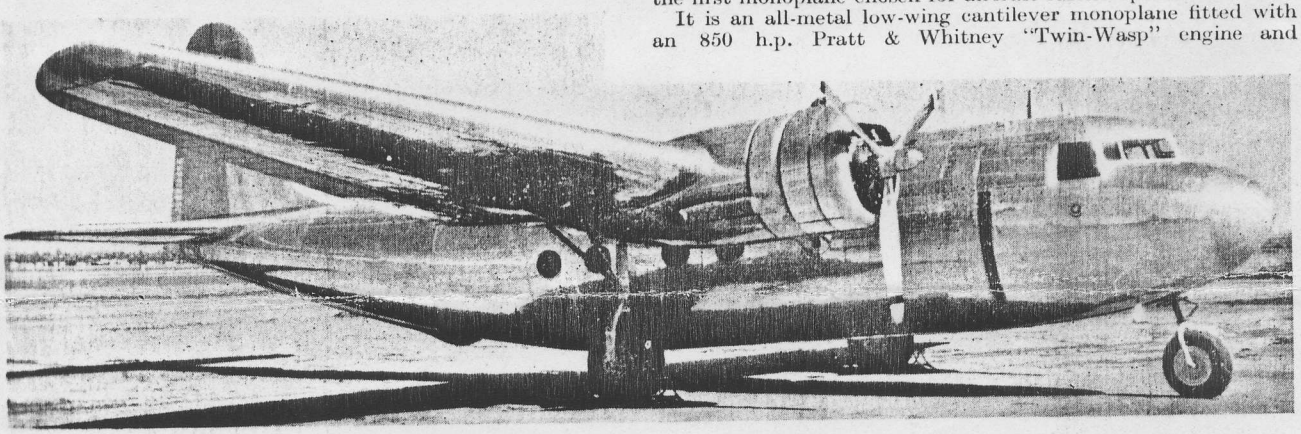
WEIGHTS.—Weight empty 13,674 lbs. (6,200 kg.), Useful load 6,326 lbs. (2,870 kg.), Gross weight 20,000 lbs. (9,070 kg.).

PERFORMANCE.—Maximum speed at 7,700 ft. (2,350 m.) 230 m.p.h. (370 km.h.), Cruising speed at 10,000 ft. (3,050 m.) (65% power) 195 m.p.h. (314 km.h.), Initial rate of climb (take-off power) 1,585 ft./min. (m./min.), Service ceiling 23,700 ft. (7,230 m.), Absolute ceiling on one engine 11,400 ft. (3,480 m.), Maximum range 1,600 miles (2,575 km.).

THE DOUGLAS TBD-1.

The TBD-1 is a dual-purpose torpedo-bomber monoplane which is in production for the U.S. Navy. It is claimed to be the first monoplane chosen for aircraft-carrier operations.

It is an all-metal low-wing cantilever monoplane fitted with an 850 h.p. Pratt & Whitney "Twin-Wasp" engine and



The Douglas DC-5 Commercial Transport in its normal attitude on the ground.